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METHOD FOR FERROELECTRIC FILM AND MANUFACTURE OF SEMICONDUCTOR DEVICE

Patent number: JP2000091333
Publication date: 2000-03-31

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Classification:
- international: H01L21/316; C23C16/40; H01L21/31
- european:
Application number: JP19980258634 19980911
Priority number(s):

View INPADOC patent family

Abstract of **JP2000091333**

PROBLEM TO BE SOLVED: To form a ferroelectric film made of a metallic oxide on a substrate in an oxidizing atmosphere at low temperatures, at which a lower electrode or a barrier layer is not oxidized by a chemical vapor deposition method, using a metallic oxide and an oxidizing agent including N2O gas and O2 gas.

SOLUTION: A vaporized solution source CVD device is constituted of a liquid raw material supply unit 10, a vaporizer 24 for vaporizing a liquid raw material, and a film forming chamber 36 for forming a ferroelectric film. An N2 gas supply pipe 18 is connected to raw material containers 12, 14, 16 and an N2 gas presses the surface of the liquid raw material to introduce the liquid raw material into a pipe 19, and the raw materials are mixed at a desired ratio by a mixer 21 and is introduced into a vaporizer 24 by a liquid pump 22. The vaporized raw material is supplied into the film forming chamber 36 by an Ar gas, and an oxidizing gas including N2O gas and O2 gas, is supplied into the film-forming chamber 36 through a gas supply pipe 38. A ferroelectric film can be formed at low temperatures by setting the ratio of the N2O gas to the O2 gas to a suitable value.